



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/934,013	08/21/2001	Timothy Tang	PD-201082	7564

7590 09/28/2005

Hughes Electronics Corporation
Patent Docket Administration
Bldg. 1, Mail Stop A109
P.O. Box 956
El Segundo, CA 90245-0956

EXAMINER

BRAGDON, REGINALD GLENWOOD

ART UNIT PAPER NUMBER

2188

DATE MAILED: 09/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

87

Office Action Summary

Application No.

09/934,013

Applicant(s)

TANG, TIMOTHY

Examiner

Reginald G. Bragdon

Art Unit

2188

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 March 2005 and 24 May 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-61 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-61 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 March 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The drawings were received on 02 March 2005. These drawings are approved by the Examiner.

Specification

2. Applicant should update the applications/priority documents listed in paragraph [01] with their current status and/or application number.

Claim Objections

3. Claims 24-31 are objected to because of the following informalities:

Claim 24, line 8, "store" or "receive" should be deleted.

All dependent claims are objected to as having the same deficiencies as the claims they depend from.

Appropriate correction is required.

Claim Rejections - 35 USC § 101

4. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

5. Claims 47-61 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

In claims 47-61, Applicant sets forth a “computer readable medium”. In supporting this language in the specification, Applicant sets forth on page 19, paragraph [66], that a computer readable medium includes “transmission media”, such as “coaxial cables, copper wire and fiber optics”, “acoustic, optical, or electromagnetic waves, such as those generated during radio frequency (RF) and infrared (IR) data communications”, and “a carrier wave”. Therefore, giving claim 47 (for example) a reasonable interpretation consistent with the specification, a “computer readable medium” would embody transmission media.

However, communication or transmission media, such as those set forth by the Applicant in the specification, are not tangible. A communication medium, such as a carrier wave, cannot tangibly embody a computer program or process since a computer cannot understand/realize (i.e. execute) the computer program or process when embodied on the communication medium. Computer programs or processes are only realized within the computer when stored in a memory or storage element (such as RAM or ROM). Therefore, a communication medium does not meet the “useful, concrete, and tangible” requirement as set forth in *State Street*, 149 F.3d at 1373, 47 USPQ2d at 1601-02, and hence claims 47-61 are not statutory under 35 U.S.C. 101.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 39-40 and 42-46 are rejected under 35 U.S.C. 102(e) as being anticipated by Malkin et al. (6,085,193).

As per claim 39, Malkin et al. teaches, with reference to figure 3A, identifying data access patterns at content and proxy servers (“analyzing a traffic stream for content”), wherein the servers have processors (elements 260 and 280). See step 102. Prefetch hint information (PHI) is created at the content server 20 based on the data reference patterns identified (“outputting a profile...the profile is used to prepare a master profile”). See step 104 and column 8, lines 38-52. A final PHI is created based on this initial PHI. See column 8, lines 64-67. Based on the final PHI, information is prefetched (“caching content that is associated with the master profile”) into a cache. See column 9, lines 3-9, and step 108 of figure 3A; column 3, lines 39-42; and column 6, lines 34-36.

As per claim 40, Malkin et al. teaches that the network 25 is the Internet, which is a wide area network (WAN).

As per claim 42, Malkin et al. teaches prefetching at column 9, lines 3-9, wherein prefetching is pre-loading a cache memory with data before the data is actually requested using the final PHI.

As per claim 43, Malkin et al. teaches updating a statistics table 261, which results in updating of the PHI, including the initial PHI, which further results in the cache memory being updated (“periodically refreshing the cache with content of a new master profile”). See column 14, lines 13-25 and 48-59, and figures 5 and 6.

As per claim 44, Malkin et al. teaches prioritizing the prefetch list based on the access probability of the object (i.e. popularity). See column 15, line 61, to column 16, line 8.

Art Unit: 2188

As per claim 45, Malkin et al. teaches that no extra content is added to the PHI and therefore the PHI is restricted to objects that are associated with the final PHI.

As per claim 46, Malkin et al. teaches that the initial PHI can be supplied from the content provider based on knowledge of object relationships (i.e. “content communities”) such as patches and upgrades, JAVA classes, and GIFs. See column 11, lines 50-56.

8. Claims 1-2, 4-10, 12-17, 19-25, 27-33, 35-40, 42-48, 50-56, and 58-61 are rejected under 35 U.S.C. 102(e) as being anticipated by Krishnan et al. (6,260,061).

As per claims 1 and 47, Krishnan et al. teaches an arrangement where selected objects are prefetched by manager processor 131 (“remote location”). See column 5, lines 64-67. Each agent processor 122-n, creates a URL graph based on URLs accessed by the N most active web browsers (“analyzing the traffic stream for first content”) over the Internet (“receiving a traffic stream”). See column 6, lines 1-11. A prefetch list is generated (“generating a profile based on the first content”) and submitted to the manager processor (“transmitting the profile to a remote location”). See column 6, lines 54-58. The manager processor 131 combines all the objects in the prefetch lists from various agent processors to form a global prefetch list (“generating a master profile based on the received profile”). See column 7, lines 15-18. The manager processor accesses the Internet to obtain the objects on the global list for storage in the manager cache 133 (“retrieving second content associated with the master profile at the remote location”). See column 7, lines 20-23. The agent processor can then access the prefetched data in the manager cache for storage in a server processor (“receiving the second content from the remote location”). See column 7, lines 60-64.

As per claims 9 and 55, Krishnan et al. teaches that an agent processor 122-n, creates a URL graph based on URLs accessed by the N most active web browsers over the Internet. See column 6, lines 1-11. A prefetch list is generated (“a profile is prepared based upon content of a traffic stream”) and submitted to the manager processor (“receiving ...a profile”). See column 6, lines 54-58. The prefetch lists generated by the agent processors are based on proxy server activity with a proxy cache (“from a remote cache”). See column 2, lines 62-65, and column 6, lines 46-48. The manager processor 131 combines all the objects in the prefetch lists from various agent processors to form a global prefetch list (“generating a master profile based on the received profile”). See column 7, lines 15-18. The manager processor accesses the Internet to obtain the objects on the global list for storage in the manager cache 133 (“retrieving content associated with the master profile”). See column 7, lines 20-23. The agent processor can then access the prefetched data in the manager cache for storage in a server processor proxy cache (“transmitting content associated with the master profile to the remote cache”). See column 7, lines 60-64.

As per claim 16, Krishnan et al. teaches that an agent processor 122-n, creates a URL graph based on URLs accessed by the N most active web browsers over the Internet. See column 6, lines 1-11. A prefetch list is generated (“a first caching logic configured to analyze a traffic stream for first tier content and to output a first profile of the first tier content”). See column 6, lines 54-58. The prefetch lists generated by the agent processors are based on proxy server activity with a proxy cache. See column 2, lines 62-65, and column 6, lines 46-48. The manager processor 131 combines all the objects in the prefetch lists from various agent processors to form a global prefetch list (“a second caching logic configured to generate a second

Art Unit: 2188

profile based upon the first profile”). See column 7, lines 15-18. The manager processor accesses the Internet to obtain the objects on the global list for storage in the manager cache 133 (“wherein the second profile is used to retrieve second tier content”). See column 7, lines 20-23. The agent processor can then access the prefetched data in the manager cache for storage in a server processor proxy cache (“the second caching logic is further configured to transmit the second tier content to a remote cache”). See column 7, lines 60-64.

As per claim 24, Krishnan et al. teaches that an agent processor 122-n, creates a URL graph based on URLs accessed by the N most active web browsers over the Internet. See column 6, lines 1-11. A prefetch list is generated (“a processor configured to analyze a traffic stream for first tier content to output a profile of the first tier content”) by the agent processor. See column 6, lines 54-58. The prefetch lists generated by the agent processors are based on proxy server activity with a proxy cache. See column 2, lines 62-65, and column 6, lines 46-48. The manager processor 131 combines all the objects in the prefetch lists from various agent processors to form a global prefetch list (“a second processor, wherein the profile is used to prepare a master profile”). See column 7, lines 15-18. The manager processor accesses the Internet to obtain the objects on the global list for storage in the manager cache 133 (“the second processor configured to retrieve second tier content associated with the master profile”). See column 7, lines 20-23. The agent processor can then access the prefetched data in the manager cache for storage in a server processor proxy cache (“a cache coupled to the processor and configured to store the second tier content”). See column 7, lines 60-64.

As per claim 32, manager processor 131 of manager 117 (“network device”) combines all the objects in the prefetch lists (“received profile”) from various agent processors to form a

Art Unit: 2188

global prefetch list (“a processor...configured to generate a master profile based on the received profile”). See column 7, lines 15-18. The manager processor accesses the Internet to obtain the objects on the global list for storage in the manager cache 133 (“wherein second tier content associated with the master profile is retrieved”). See column 7, lines 20-23. The agent processor can then access the prefetched data in the manager cache for storage in a server processor proxy cache (“transmitted over the communications interface to a remote cache”). See column 7, lines 60-64. Inherently, the manager 117 of Krishnan et al. includes a “communications interface” to connect the manger to the network connecting the agent processors 122-n to the manager 117.

As per claim 39, Krishnan et al. teaches that an agent processor 122-n, creates a URL graph based on URLs accessed by the N most active web browsers over the Internet. See column 6, lines 1-11. A prefetch list is generated (“means for analyzing a traffic stream for first tier content” and “means for outputting a profile of the first tier content”) by the agent processor. See column 6, lines 54-58. The prefetch lists generated by the agent processors are based on proxy server activity with a proxy cache. See column 2, lines 62-65, and column 6, lines 46-48. The manager processor 131 combines all the objects in the prefetch lists from various agent processors to form a global prefetch list (“wherein the profile is used to prepare a master profile”). See column 7, lines 15-18. The manager processor accesses the Internet to obtain the objects on the global list for storage in the manager cache 133 (“means for caching content that is associated with the master profile”). See column 7, lines 20-23. The agent processor can then access the prefetched data in the manager cache for storage in a server processor proxy cache. See column 7, lines 60-64.

Art Unit: 2188

As per claims 2, 10, 17, 25, 33, 40, 48, and 56 Krishnan et al. teaches receiving the prefetch data over the Internet, which is a wide area network. See column 7, lines 21-23.

As per claims 4 and 12, Krishnan et al. teaches receiving URL requests over a local area network 109. See column 2, lines 51-52. The prefetch list from each agent processor 122-n is sent to the manager 117 over a second network. See figure 1 (connections between each agent processor and the manager).

As per claims 5, 13, 20, 28, 36, 43, 51, and 59 Krishnan et al. teaches updating the prefetch list generated by each agent processor, which would result in updating the global prefetch list by the manager processor (“generating a new master profile”) and retrieving by the manager processor of the objects on the global list (“periodically transmitting refreshed second content based on the new matter profile”). See column 6, lines 59-65.

As per claims 6, 14, 21, 29, 37, 44, 52, and 60 Krishnan et al. teaches prioritizing prefetch URLs. See column 6, lines 12-45.

As per claims 7, 15, 22, 30, 38, 45, 53, and 61, Krishnan et al. teaches that no extra content is added to the prefetch list and therefore access is restricted to objects on the prefetch object list.

As per claims 8, 23, 31, 46, and 54, Krishnan et al. teaches consolidating of prefetching sites based on the content location. See column 7, lines 24-31.

As per claims 19, 27, 35, 42, 50, and 58 Krishnan et al. teaches prefetching data into the proxy cache (“the remote cache is pre-loaded with the content associated with the second profile”). See column 7, lines 54-64.

Art Unit: 2188

9. Claims 1-4, 7-12, 15, 24-27, 30-35, 38-42, 45-46, 55-58, and 61 are rejected under 35 U.S.C. 102(e) as being anticipated by Carneal et al. (6,282,542).

As per claims 1, 9, 24, 32, 39, and 55, Carneal et al. teaches a prefetch method over a network. As shown in figure 7, element 92, a satellite gateway parses a parent file for inline object references (“analyzing...”). See also column 8, lines 30-41. A list of prefetch objects is generated based on the parsing (“generating...master profile”). See also column 8, lines 41-43. The list is used to prefetch objects and store the objects at an access point object cache 71 (“caching...”). See column 7, lines 64-65, and column 8, lines 57-59.

As per claims 2-3, 10-11, 25-26, 33-34, 40-41, and 56-57, Carneal et al. teaches an internet satellite link connection, which is a satellite wide area network.

As per claim 4, 12, 27, 35, 42, and 58, Carneal et al. teaches prefetching at column 7, lines 64-65, wherein prefetching is pre-loading a cache memory with data before the data is actually requested using the prefetch object list.

As per claims 7, 15, 30, 38, 45, and 61, Carneal et al. teaches that no extra content is added to the prefetch list and therefore access is restricted to objects on the prefetch object list.

As per claims 8, 31, and 46, Carneal et al. teaches grouping of prefetching based on the type of objects to be prefetched (“content communities”) at column 13, lines 8-26.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

Art Unit: 2188

having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 3, 11, 18, 26, 34, 41, 49, and 57 are rejected under 35 U.S.C. 103(a) as being unpatentable over Krishnan et al. in view of Carneal et al. (6,282,542).

As per claims 3, 11, 18, 26, 34, 41, 49, and 57, Krishnan et al. doesn't teach that the Internet WAN is a satellite WAN. Carneal et al. teaches an internet access system that includes a satellite link and prefetching of data over the satellite link. See column 3, lines 12-14, and figure 3. It would have been obvious to one of ordinary skill in the art to implement a satellite link in the network of Krishnan et al, as suggested by Carneal et al., because Carneal et al. teaches that regular telephone lines have a limited bandwidth and that satellite links would alleviate this problem (see column 4, lines 56-64). Satellite links also relieve the burden of the physical implementation of "laying out" telephone or other hardwire connections over vast distances.

Response to Arguments

12. Applicant's arguments filed 02 March 2005 and 24 May 2005 have been fully considered but they are not persuasive.

With respect to Applicant's remarks concerning the rejection of claims 47-61 under 35 U.S.C. 101, these are not persuasive. Applicant's specification specifically states that "computer-readable medium" includes "transmission media". See paragraph [0066], lines 2-4 and 6-9. From these sentences, Applicant specifically intends one embodiment of "computer-readable medium" to be "transmission media". Therefore, "computer-readable medium" and "transmission media" would be one and the same based on this embodiment set forth in the specification.

Art Unit: 2188

Applicant's argument with respect to independent claim 39 and the Malkin et al. reference is not persuasive since claim 39 does not specify that the "received" profile is used to generate the master profile. Instead it is set forth that the profile is used to prepare a master profile and this limitation does not require that a separate master profile be generated, instead the master profile may be the profile.

With respect to Applicant's arguments with respect to the Carneal et al. reference, these are not persuasive. With respect to the arguments regarding claim 1 (on page 21 of the response filed 02 March 2005) and claims 9, 24, 32, 39, and 55 (in the response filed 24 May 2005) these are not persuasive since the elements argued are not in the claims. For example, the claims do not set forth generating a profile based upon first tier content at a first cache engine and transmitting the profile to a second cache engine. Furthermore, the arguments do not address the particulars of Carneal et al. relied upon by the Examiner, but instead make generalized statements about the reference, which do not serve to distinguish the claims from the specific sections of Carneal et al. applied.

Conclusion

13. Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

All "OFFICIAL" patent application related correspondence transmitted by FAX must be directed to the central FAX number at **(571) 273-8300**:

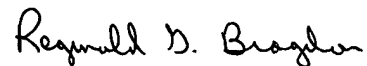
"INFORMAL" or "DRAFT" FAX communications may be sent to the Examiner at **(571) 273-4204**, only after approval by the Examiner.

Art Unit: 2188

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Reginald G. Bragdon whose telephone number is (571) 272-4204. The examiner can normally be reached on Monday-Thursday from 7:00 AM to 4:30 PM and every other Friday from 7:00 AM to 3:30 PM.

The examiner's supervisor, Mano Padmanabhan, can be reached at (571) 272-4210.

RGB
September 24, 2005


Reginald G. Bragdon
Primary Patent Examiner
Art Unit 2188